

Building Performance Improvement Board  
Recommendations on Building Energy  
Performance Standards Regulations

August, 2023

## Table of Contents

<b>Building Performance Improvement Board Members</b> .....	3
<b>Background</b> .....	4
<b>Building Type Groupings</b> .....	5
Building Type Groups .....	5
Adjustment Factors .....	6
Mixed-Use Buildings.....	6
“Other” Buildings .....	7
Exemption Criteria: Manufacturing and Industrial .....	7
<b>Interim and Final Site Energy Use Intensity Performance Standards</b> .....	8
Background.....	8
Interaction with State Goals .....	9
Site EUI Targets .....	10
Under-Resourced Buildings .....	13
<b>Building Performance Improvement Plans (BPIPs)</b> .....	13
Qualifying Scenarios.....	14
Timeline / Application Process .....	16
Documenting Improvement Measures .....	17
Cost Effectiveness for Measures.....	18
Verifying Implementation .....	19
<b>Renewable Energy Allowance (REA)</b> .....	21
Background.....	21
Onsite Renewable Energy Considerations.....	21
Offsite Renewable Energy Considerations .....	23
<b>Appendix 1: BPIB Agendas, Presentations, and Notes</b> .....	28
<b>Appendix 2: Building Type Final Group Recommendations</b> .....	29

## Building Performance Improvement Board Members

- Lawrence Carroll, Nonresidential building owner or manager representative
- Daniel Cleverdon, General public representative
- Mike Dieterich, Provider of energy efficiency, building resilience and/or renewable energy services or consulting representative
- Gregory Goldstein, Technical building design or operations professional representative
- Jill Goodrich, Owner or manager of affordable housing representative
- Luke Lanciano, Owner or Manager of multi-Family residential building containing market-rate units representative
- Adam Landsman, Provider of energy efficiency, building resilience and/or renewable energy services or consulting representative
- Amanda MacVey, General public representative
- Josh McClelland, Local electricity or natural gas utility representative
- Edward Musz, Local electricity or natural gas utility representative
- Sheena Oliver, Nonresidential building owner or manager representative
- Andrew Rivas, Nonprofit building owner or manager representative
- Rhett Tatum, Finance or investment professional representative
- Kevin Walton, Nonprofit organization dedicated to climate action, resiliency, public health, green building, economic development, or building decarbonization representative
- Julie Wolfington, Provider of facilities, mechanical, or similar engineering services representative

### Ex Officio Members

- Lindsey Shaw, Department of Environmental Protection designee
- Bryan Bomer, Department of Permitting Services designee
- Dan McHugh (retired), Department of Housing and Community Affairs designee
- Michael Yambrach, Department of General Services designee

## Department of Environmental Protection Staff Supporting the Board

- Emily Curley, DEP Staff Liaison
- Stan Edwards
- Lewis Morgante
- Cuiyin Wu

## Background

The Building Energy Use Benchmarking and Performance Standards law established a Building Performance Improvement Board (BPIB or the Board) comprised of 15 voting members and Designees of the Department of Environmental Protection, Department of General Services, Department of Housing and Community Affairs, Department of Housing and Community Development, and Department of Permitting Services as ex officio nonvoting members of the Board.

The Board includes representatives of local electricity and natural gas utilities; providers of energy efficiency services and consulting; owners or managers of affordable housing; owners or managers of multi-family residential buildings containing market-rate units; nonresidential building owners or managers; nonprofit building owners or managers; technical building design/operations professionals; providers of facilities, mechanical, or engineering services; commercial/multi-family residential construction finance or investment professionals; and representatives of nonprofit organizations dedicated to climate action.

The first Board members were appointed in September 2022 and began holding bi-weekly meetings in October; these meetings were open to the public. The purpose of the Board is to generally advise the Department of Environmental Protection (herein known as the Department or DEP) on implementation of building energy performance standards (BEPS). As the County Executive must issue Method (2) regulations no later than December 31, 2023, the Board focused on recommendations on regulation topics:

1. Building type groupings;
2. Interim and final site energy use intensity performance standards for each building;
3. Building performance improvement plans;
4. Criteria for the renewable energy allowance in the performance.

Additional issues were addressed within the above topics. These included:

5. Managing unique situations, such as change in ownership or building type;
6. Complementary programs or policies, with particular attention to assistance or accommodations for challenged or under-resourced sectors, such as affordable housing, non-profit organizations, and small businesses.

Links to the agendas, meeting notes, and presentations from all meetings are listed in **Appendix 1** and are available on the [BPIB webpage](#).

Note that many of these topics were discussed before the Maryland Department of Environment (MDE) issued draft regulations on the state's BEPS. As such, the Board generally discussed issues of alignment based on the language in the [Climate Solutions Now Act of 2022](#), but at the time did not yet have MDE's draft regulations to reference.

This report serves as the stakeholder work group's recommendations for the County's consideration. Board recommendations are denoted by areas of consensus and non-consensus within each topic. Please note that participation in the process does not imply full member endorsement of any particular recommendation. The Board members look forward to continued support of the Montgomery County Government on the implementation of BEPS. Montgomery County Government staff are incredibly grateful for the time, energy, and expertise the appointed BPIB members provided during this process.

## Building Type Groupings

Per the BEPS law, “building type” means a category of covered buildings subject to the same final performance standards.

(b) *Building types.*

(1) No later than December 31, 2023, the County Executive must issue Method (2) regulations establishing building types for every covered building.

(2) Covered buildings within each building type must have shared characteristics that facilitate the implementation and enforcement of this Article. The Department may define one or more building types to be identical to ENERGY STAR property type categories.

(3) All covered buildings within the same building type category must be subject to the same final performance standards that facilitate the implementation and enforcement of this Article.

The Board considered building type groupings and other related issues as summarized below. Building type groupings were considered over several meetings in November 2022 and December 2022.

### Building Type Groups

The Board considered property type groupings from the BEPS Technical Report (which relies on building groups outlined via the Commercial Building Energy Consumption Survey (CBECS) which includes 16 use types), from ENERGY STAR Portfolio Manager (ESPM) which includes 83 different property use types, and a custom grouping that blends CBECS and ESPM. Several points were raised by members on how to generally define building groups:

- Aligning building type groups with both the District of Columbia and the state of Maryland would aid owners with buildings in multiple jurisdictions.
- Using the larger number of groupings in the ESPM would minimize variation within each group, may be easier to identify the appropriate building group, and potentially better align with other jurisdictions.
- Alternatively, too many categories could be confusing and special considerations can be provided for outliers.

### General Consensus

- The Board agreed it was important to set the building type groups at the start of BEPS, and not wait for more data to become available with increased benchmarking, as building owners need to have set targets to use for planning.
- The Board reviewed methodology to create BEPS building type groups. The suggested approach for creating building groups is to group buildings with shared characteristics in operations and energy use intensity.
- In creating a reference standard for each group, which serves as the basis for determining final site EUI targets, the suggested approach is to use the local median site energy use intensity (EUI) as the reference standard when available, e.g., where a large enough sample size exists (typically 8+ buildings). Site EUI measures the annual energy use per square foot per year of each building. DEP may reference Maryland-state-wide benchmarking data to supplement where few County buildings have reported. In the absence of a large enough/representative sample locally, the CBECS median site EUI adjusted to local climate, where possible, would be used as a reference.
- [Appendix 2](#) contains board recommended building type groups

## Non-Consensus

- Based on previously discussed building group types, some members expressed support for additional sub-groups for types like food sales/food service, bank branches, and automobile dealerships, but generally supported the overall methodology.

## Adjustment Factors

The Board discussed criteria that could be applied in certain scenarios to adjust a building's BEPS target. Some believed that adjusting up front would leave savings opportunities on the table, e.g., if a building is operating 24/7, that may be a business need or a major opportunity for savings. However, the BPIP path will be available to owners where "circumstances out of the owner's control" prevent them from meeting the target. This, in general, obviates the need for specifically delineated custom adjustments. Further, without any information about specific circumstances in which a custom adjustment might be requested, it is difficult to create a list of appropriate adjustments.

## General Consensus

The conversation settled on providing *limited* adjustment criteria and allowing for flexibility in the regulations such that DEP could add additional adjustment criteria if the benchmarking data or BPIPs point to such a need. These criteria could initially include building age, operating hours, special equipment, and metering configuration (landlord vs. tenant paid).

## Mixed-Use Buildings

Some buildings consist of multiple property use types, e.g., a multifamily building with a ground-floor grocery store or an office building that also includes laboratory space. The Board reviewed how other jurisdictions are considering multiple building uses in target setting. The Board considered how mixed-use buildings may be treated in BEPS - both those classified as "mixed-use" in ESPM (i.e., no single property type makes up >50% of the total building GFA) and those that have one primary space >50% of floor area, but with one or more secondary spaces. In support of this, ESPM already provides the gross floor area for multiple property use types. However, at the time of publishing this report, this is currently limited to the three largest use types.

Board members also discussed having an option for building owners to request to include more than 3 property types in the target weighting if there are additional space types present that impact the building's site EUI target.

## General Consensus

To address mixed-use buildings, the Board favored utilizing an area-weighted site EUI target based on percentage of gross floor area for each property type in the building multiplied by the site EUI target for each property type. The following items were moved to a vote related to mixed-use building treatment:

- The majority of members voted in favor of providing area-weighted mixed-use targets.
- The majority of members voted in favor of providing area-weighted mixed-use targets for all buildings with secondary spaces (not just those classified as "mixed-use" by ESPM).
- In terms of how to apply mixed-use targets, the majority members voted in favor of using a blended target based on the percentage of Gross Floor Area assigned to the largest three building types, like the Denver methodology, which is the data limit currently imposed by ESPM.

## “Other” Buildings

The Board reviewed treatment of “Other” buildings, i.e., those that do not fall within the 80+ available property use categories in ESPM at time of publishing this report.

### General Consensus

In terms of methodology for grouping and creating targets for these buildings, the Board generally agreed with DEP’s suggested approach of:

- For buildings reported as “Other – Other”, DEP will contact the building owner to re-assign the building or place it into a category if not clearly an “Other” CBECS property type. The building owner retains right to appeal the assignment—a process to be clarified in technical guidance.
- For truly “other” buildings, they should be handled on a case-by-case basis, with options provided by DEP, including:
  - Guidance on choosing the most appropriate property use type.
  - Area-weighting as with any mixed-use building if the building contains some uses that allow it.
  - A custom target based on the building’s historical energy use and a target consistent with the methodology used for other buildings in the BEPS regulations.

### Exemption Criteria: Manufacturing and Industrial

The Board reviewed the exemption criteria from the BEPS law, which is a building in which more than 50% of the total gross floor area is used for:

- Public assembly in a building without walls; or,
- Industrial uses where the majority of energy is consumed for manufacturing, the generation of electric power or district thermal energy to be consumed offsite, or for other process loads; or,
- Transportation, communications, or utility infrastructure.

The Board discussed the definition of “manufacturing” and the criteria by which DEP can verify whether the “majority” of energy is consumed by manufacturing and industrial process loads.

### General Consensus

The Board suggested that the County explore further defining manufacturing and industrial uses in regulation or technical guidance and align with existing definitions, such as the State of Maryland’s [Sales and Use Tax Exemptions for Production Activities](#) or land use definitions in the [current County code](#). Among other “production activities” the State’s guidance also includes, “Establishing or maintaining clean rooms or clean zones required by federal laws pertaining to manufacture of drugs, medical devices, or biologics.”

The Board also generally advised that if >50% of the floor area is for a manufacturing or industrial use, it is likely that a majority of energy use in the building will be for a related industrial use. If <50% of the gross floor area is used for industrial, DEP could request more documentation such as Building Automation System (BAS) data, electrical in-line drawings, calculations about equipment loads, energy audits, or site visits to demonstrate that the majority of energy use is consumed by an exempted use. The Board recommended that DEP provide additional detail in technical guidance about the type of documentation that may be required.

## Interim and Final Site Energy Use Intensity Performance Standards

Per the BEPS law, the Department must develop and implement building energy performance standards for covered buildings. The standards must:

- 1) Increase the energy efficiency of existing covered buildings and expedite the reduction of greenhouse gas emissions from the building sector;
- 2) Use normalized net site EUI as a performance metric wherever feasible or net site EUI if the Director determines that normalization is not practical as a performance metric;
- 3) Account for the renewable energy allowance in the performance metric;
- 4) Use the benchmarking tool to report building energy performance to the County; and
- 5) Utilize available data sources and best practices to establish interim and final performance standards.

No later than December 31, 2023, the County Executive must issue Method (2) regulations establishing final performance standards for each building type using the normalized site EUI performance metric wherever feasible or site EUI if the Director determines that normalization is not practical.

Following regulations, the Department must calculate interim performance standards for each covered building with the starting point set at the covered building's performance baseline and continuing to the final performance standard.

The BPIB focused on determining the most appropriate standard to use as a final site EUI target. Site EUI target topics were reviewed over several meetings from December 2022 to February 2023.

### Background

The [BEPS Technical Report](#) laid out several methodologies for creating a site EUI target:

- **Energy Efficiency (EE) Target:** Sets a target such that all energy end uses are deeply optimized and tuned without impacting occupant use patterns. This target-setting method assumes a reduction from all fuels in the building (electricity and fossil-fuel end uses) such that typical buildings could maintain the use of fossil-fuel burning systems for typical end uses such as space and water heating but would minimize inefficiencies of those systems.
- **Zero Net Carbon Compatible (ZNC) Target:** Sets the target to a level simulating the electrification of fossil-fuel end uses using market-ready technology in an energy efficient building. Electrification is one of the deepest forms of energy efficiency since electric equipment operates at a much higher efficiency than fuel-fired equipment. This target was intended to be most compatible with Zero Net Carbon goals because it implicitly requires the elimination of most on-site fuel burning.
- **EE/ZNC Midpoint Target (Midpoint):** This target type exemplifies how the site EUI targets can be chosen anywhere along this spectrum between the EE and ZNC targets. A mid-point target was calculated to identify the impact of splitting the difference between the two targets. This target could be achieved using a combination of energy efficiency measures and partial electrification, or electrification of some, but not all, fossil-fuel-driven systems.

The basic calculation methodology is to take the median site EUI for each building type group, estimate the site EUI of the electricity and combustion end-uses for each building type, and then to apply a standard reduction to each end-use for each building type. An example calculation to derive each target can be seen on page 186 in the [BEPS Technical Report](#).

The Board primarily focused on the target-setting methodology rather than the site EUI numbers because the recommendation to form additional building type groups requires recalculation of targets based on the median for each new building type group. BEPS Technical Report sample targets are shown below for the most common building types:

Performance Standards by Building Type [Site kBtu/SF]	2019 Median			EE Target			ZNC - Target		
	Gas EUI	Elec EUI	Site EUI	Gas EUI	Elec EUI	Site EUI	Gas EUI	Elec EUI	Site EUI
Multifamily	38	24	62	33	20	55	0	35	35
Office	0	62	63	0	53	53	0	53	53
Warehouse and storage	0	19	19	0	16	16	0	16	16
Mercantile Retail (other)	16	46	62	14	39	53	0	45	45
Lodging	38	49	87	34	41	76	0	58	58

Because the ZNC target projects efficiency gains from electrification, building types with the most on-site combustion today require the largest reductions to reach the ZNC target. For example, multifamily buildings had a median EUI of 62 in 2019, with 38 kBtu/sq ft representing gas end uses and 24 kBtu/sq ft representing electricity end uses. As a result, multifamily buildings were projected to need a 44% reduction on average to reach the ZNC target of 35. Offices, on the other hand, reported very low gas use in 2019. As a result, the ZNC target assumes less site EUI savings potential since there are few/no systems to convert from gas to electric. As a result, office buildings were projected to need a 16% reduction on average to meet the ZNC target of 53.

Much of the Board’s discussion centered on the technical and economic challenges of combustion-dependent building types to rapidly electrify, as summarized below.

### Interaction with State Goals

Initial discussions revolved around how the County EUI targets might align with the [Climate Solutions Now Act](#) of 2022, which requires that the Maryland Department of Environment (MDE) develop Building Energy Performance Standards. MDE must develop standards for buildings that achieve a 20% reduction in net-direct GHGs by 2030 (as compared with 2025 levels for average buildings of similar construction), net-zero direct GHGs by 2040, and to-be-determined site EUI targets (at the time of this discussion. Proposed site EUI targets have subsequently been issued). Three options were discussed:

- **No/little alignment:** County BEPS operates independently from the state program and building owners track requirements for both laws.
- **Some alignment:** Create County BEPS targets to prompt significant progress towards state’s 2040 net zero direct GHG requirements. Methodology may differ in areas like building groups, reference standards, and target-setting.
- **Full alignment:** County adopts state site EUI targets such that County buildings meet targets earlier than the state deadline based on the compliance years in County BEPS.

### General Consensus

Members agreed on an approach of “some alignment” for now and revisiting once state site EUI targets are finalized, given the many unknowns.

## Site EUI Targets

The discussion on recommendations for the final EUI targets was wide-ranging. Discussion focused on the three potential targets described in the BEPS Technical Report, the Energy Efficiency (EE) Target, Zero-Net Carbon Compatible (ZNC) Target, and the EE/ZNC Midpoint (Midpoint) Target.

Member opinions on each of the target options are summarized below. Additional board member feedback on the individual targets can be found on slides 10 – 12 in the presentation for the [February 1, 2023](#) meeting, as well as in the meeting notes from 12/7/2022 to 2/1/2023.

The Board initially began discussing the ZNC target, as this approach is most aligned with spurring net-direct GHG reductions. Discussion on the ZNC target was generally split amongst members. Several members expressed support for the ZNC target, which included:

- Achievable with existing HVAC technology, technologies are available to address building envelope efficiency in cost-effective ways,
- Technologies are available to install additional controls in tenant spaces (e.g., smart thermostats),
- Increased energy efficiency can help free up electrical capacity and may allow owners to avoid electrical upgrades and be more affordable, efficiency projects can provide real benefits to tenants both from reduced utility bills and from improved comfort and reliability,
- The BPIP and Renewable Energy Allowance can be used to offset challenges from a disconnect between feasibility on paper and that in the real world,
- Alignment with State climate goals,
- BEPS is a function the county-declared a climate emergency, so a zero-net carbon target is best in keeping with the spirit and intent of overall county goals.

Concerns with the ZNC target included:

- The real-world technical feasibility of a ZNC target may not always align with savings potential in buildings,
- The challenges with multifamily or leased buildings where tenant behavior is often difficult to predict and control and there is no payback to the owner for efficiency upgrades when tenants pay utility bills,
- Challenges to buildings with a large amount of natural gas heating,
- Electrification retrofits often have very high up-front cost and long return on investment (ROI) periods,
- Buildings where HVAC equipment has been replaced recently could make electrification or replacement technically and economically infeasible,
- Misalignment between high-level bids on the work that would need to be done and the actual costs,
- Additional costs that may be needed to upgrade electrical systems to support additional electric equipment in a building, and
- The limited penalty amounts for not complying compared to the actual costs of the upgrade.

The Energy Efficiency (EE) target also raised both positive and negative points. Points mentioned in favor included:

- This is the easiest to achieve while still being aggressive: it can be met by many buildings that make smart and targeted investments in the technology available over the next decade,
- Most projects will have a good return on investment, and

- This target may be better suited for multifamily buildings as there is the potential for the costs of more demanding targets to be transferred to tenants via rent increases.

Points mentioned in opposition to using the EE target included:

- This does not push building owners far enough by allowing replacement of gas equipment with more efficient gas equipment versus electric heat pumps,
- Creates an equity issue for LMI households in developing a county policy that encourages continued use of fossil gas given the higher efficiency of heat pumps and utility rate forecasts of gas versus electricity, and
- The technology being employed to meet just this degree of energy efficiency may be obsolete relatively soon.

Specific discussion of the EE/ZNC midpoint was generally more limited. However, points mentioned in favor include:

- Serves as a compromise between the two options,
- Most existing buildings could meet this goal within reason, and
- The target is generally in agreement with a pathway that aligns with the state BEPS targets that are set several years past the final target BEPS date.

Points mentioned in opposition to the EE/ZNC midpoint include:

- This would be more difficult for older multi-family buildings to reach (similar argument to the ZNC target),
- May potentially make it challenging to maintain building ownership (similar argument to the ZNC target), and
- Questions on whether this does align enough with State goals.

In addition, multifamily housing was most often identified as a challenging building type for setting EUI goals. For example, a building may not reach its overall EUI if the residents control their own energy use for heating and cooling. In situations where there is a central system, the cost of the upgrades to reduce energy use may be transferred by the building owner to the individual renters and potentially challenge housing affordability. However, also noted were the available technologies to regulate tenant energy use even in multifamily housing with individual controls, and that incentives need to be available such that the costs of meeting the EUI targets do not substantially adversely affect rent.

There were extensive and detailed discussions on the appropriate EUI target for BEPS, held over 5 meetings. Site EUI targets evinced the greatest diversity of opinion of any topic covered by the Board.

For this reason, rather than a formal vote to produce a single final decision, the Board agreed to take an informal poll of the members' views, with the reporting of the poll results reflecting the diversity of opinion.

Some members supported one EUI target across all building types, while others suggested that some exceptions should be made based on specific building types.

The EUI options are listed in order of most to least support:

ZNC Target for all or most building types, exceptions as noted below – 8 total

- 6 - All building types
- 1 - EE/ZNC for multifamily buildings
- 1 - EE for multifamily buildings

EE/ZNC Midpoint Target for all or most building types, exceptions as noted below – 6 total

- 5 - All building types
- 1 - EE for multifamily and houses of worship; ZNC for County-owned buildings (courthouse, library, public order and safety, etc.); custom targets for laboratories and manufacturing/industrial facilities

EE Target for all building types – 1 total

## Incentives

The Board noted that incentives would play a substantial role in addressing the economic feasibility of buildings meeting the EUI targets. These included federal tax credits such as those provided in the Inflation Reduction Act, County property tax credits, Montgomery County Green Bank financing and technical assistance, the Maryland Energy Administration incentives and low-interest loans, and EmPOWER Maryland incentives. Currently, EmPOWER focuses on the reduction of energy consumption, with the rebate structure designed to incentivize energy saving measures, equipment, and projects for both electric and gas customers. Starting in 2024, the EmPOWER framework will transition to focus on reducing GHG emissions, enabling the rebate structure to provide incentives for electrification and fuel-switching in addition to the conventional EmPOWER incentive offerings.

The Board recommends a range of incentive options that may be geared towards large building-wide projects, as well as modular, prescriptive measures. The combination of the two types of incentives would most effectively help building owners with differing investment criteria make the best energy efficiency investments. Multifamily is a key property use type where incentives help building owners improve a building's performance while limiting what costs would eventually be passed through to residents to make these projects work.

The Board voiced support for additional programs that do not exist today but would be helpful to building owners in reaching the BEPS targets. Those include owners' representative services that provide project management, help securing bids, technical support, and vendor coordination; significant incentives and technical support for affordable housing and moderately priced dwelling units (MPDUs) within market-rate properties; targeted electrification pilots for buildings that are hard to electrify, such as those with central boilers or steam systems.

One member noted that it is equitable for tenants of under-resourced buildings to reap the benefits of more energy efficient, modernized, and better functioning equipment, which would provide a healthier environment for the tenants. Ideally, funding and technical resources would be provided for under-resourced buildings. One solution to address the equity issue would be to make utility incentive funds need-based, though this would require additional effort to define and identify those who fall into that category. There will be a need to ensure that all potential applicants, including those falling into a needs-based category, have equal access to information and ability to apply for incentives. This member suggested that the County create some type of tax, perhaps based on property values or carbon footprint, to fund building improvements to multifamily and other under resourced buildings.

## Under-Resourced Buildings

The BEPS law notes that “The Department may establish additional criteria recommended by the Building Performance Improvement Board for qualified affordable housing, non-profit buildings, and other buildings as appropriate.”

In terms of additional building types to be considered under-resourced, one member recommended that common-ownership communities (like condominium and co-op buildings) should also be considered as a unique building type when it comes to BEPS. There is no data source to help determine if these buildings meet the naturally occurring affordable housing criteria, and they often have trouble accessing utility incentives, C-PACE financing, and County property tax credits. Though condo boards are not registered 501(c) non-profit entities, they are not profit-seeking enterprises and condos face significant technical and financial challenges in complying with BEPS. Individually metered condo and multifamily buildings must go through residential utility programs, which are then very difficult to coordinate amongst all residents. As condo buildings have no shared tax burden, they cannot utilize C-PACE or apply for commercial property tax credits.

One member noted that the law’s wording of “other buildings as appropriate” suggests that additional criteria should be established to not just consider whole groups/types of buildings as under-resourced, but to also apply the criteria on a case-by-case basis to any building.

Another member suggested that offering an alternative compliance pathway for these buildings is preferable to providing them with a target adjustment or more time to comply. A forgiving alternative compliance path that allows under-resourced building owners to avoid penalties and show good faith by implementing feasible, cost-effective measures that are tied with the building’s lifecycle, would be best.

No consensus was reached on how to define this building type or how they should be dealt with under BEPS.

## Building Performance Improvement Plans (BPIPs)

Per the BEPS law, if a covered building owner cannot reasonably meet one or more of the applicable interim or final performance standards due to economic infeasibility or other circumstances beyond the owner’s control, based on guidelines established by regulation, the owner may submit a proposed building performance improvement plan to the Department for review and approval by the DEP Director in consultation with the Building Performance Improvement Board.

A building performance improvement plan must include:

- 1) documentation of economic infeasibility or other circumstances beyond the owner’s control such that interim or final performance standards are not met;
- 2) a list of potential improvement measures, including engineering calculations of energy savings and a cost-benefit analysis of each potential improvement measure;
- 3) a plan and timeline for achieving energy improvements to the building’s performance that will provide cost-effective energy savings based on guidelines established by regulation, including the

estimated savings to be realized by implementing all the cost-effective measures identified in the plan; and

- 4) procedures for correcting any noncompliance or deviation from the plan.

The owner must submit a building performance improvement plan to the Department at least 90 days before the deadline for submitting documentation of compliance with interim or final performance standards. If, after consulting with the Building Performance Improvement Board, the Director approves the building performance improvement plan, the owner must record the building performance improvement plan as a covenant in the County land records and deliver a certified copy of the recorded plan to the Department. After the DEP Director receives the certified copy of the recorded plan, the covered building will be deemed to be in compliance with the applicable interim or final performance standards as long as the owner fulfills the terms of the building performance improvement plan within the timeline specified in the plan.

The [law](#) also requires disclosure of covered building benchmarking and performance standards information at point of sale. Before a buyer signs a contract for the sale of a covered building, the seller must disclose to the prospective buyer that the building is subject to building energy performance standards, transfer the benchmarking property record and data verification documentation to the prospective buyer and provide the prospective buyer the building’s performance baseline, interim and final performance standards, and building performance improvement plan, if applicable.

The Board considered several aspects of a building performance improvement plan: qualifying scenarios, timing, procedures for documenting a list of potential improvement measures, and verifying plan implementation. BPIP topics were reviewed over several meetings from February through April 2023.

### Qualifying Scenarios

A BPIP can be pursued if a covered building owner cannot reasonably meet one or more of the applicable interim or final performance standards due to economic infeasibility or other circumstances beyond the owner’s control, based on guidelines established by regulation.

### Circumstances Outside the Owner’s Control

The Board considered qualifying scenarios that would constitute “circumstances outside the owner’s control.”

### General Consensus

Members generally agreed with the qualifying scenarios adopted in other jurisdictions and discussed appropriate documentation that would be needed to demonstrate each situation.

Scenario	Recommended Documentation / Notes
Planning for end of equipment system life	Detail the equipment and age of each system, compare vs standard service life chart

Planning for major renovation / redevelopment	Detailed and specific documentation, with timelines, should be required as demolition can be “planned” for years in advance. Documentation could include documentation showing lease expiration dates; proof that leases are not being renewed; zoning change application; site plan approvals; design drawings.
Historic building	Proof of historic designation; detailed description of the unique limitations placed on the building and how that prevents it from meeting the EUI target
Benchmarking waiver (including financial distress)	Outlined in benchmarking waiver request. Would confer a one-year delay for the benchmarking period waived (e.g., waiver for interim BEPS year benchmarking means you have one extra year to meet the target)
Natural or man-made disasters	Documentation of disaster (e.g., fire, flooding) and impacts to building operations and finances
Change of building ownership where the new building owner will have difficulty in complying on time	Proof of sale of building and narrative explaining the new building owner’s inability to comply on time (e.g., new owner purchases the building in 2028 and previous building owner did not make progress towards 2028 target).
Pending demolition	A benchmarking waiver is only available for the calendar year in which demo permit is received and would confer a 1-year delay for any period the waiver is granted; Demolition permit or documentation of planned, future demolition (members noted that there should be a set timeframe in which demolition would be a qualifying scenario, such as within the BEPS performance period or within 3 years of the interim or final standard.)
Planning for financing cycles	Description of the funding strategy that will be pursued to implement interim and final EEMs and/or retrofits to meet the savings target. Description should provide an estimate of the projected funding sources (e.g., property operating income, reserves, private financing, public financing) needed and the estimated costs to be incurred to meet the requirements. Though other jurisdictions only provide financing cycles as a qualifying scenario for affordable housing, one member noted that this can and should apply to market rate buildings as well.
Innovative approach to energy efficiency	Narrative from architect/engineer detailing the benefits of the innovation, the novelty of the project, demonstrate that the EEM has not been widely implemented by the local building industry, and why delays are anticipated and/or cannot be avoided.
Other reasons considered by DEP on a case-by-case basis	Could include limitations to buildings on a steam loop or other district system, or systems difficult to electrify. To be considered in conjunction with the Board

### Economic Infeasibility

Economic infeasibility could occur because a building study shows that site EUI target is not technically feasible, when improvement measures to meet the target have high cost and low benefits, or when the owner lacks the needed capital to make improvements.

Members generally agreed that adopting an objective metric for economic infeasibility would be preferable to more subjective criteria. For example, these could include discount rate, savings to investment ratio, return on investment – with clear instructions on how to calculate and what to include in costs and savings. Several members noted, however, that the numbers used to determine these figures can be adjusted to meet specific criteria based on the building owner’s goals.

Though buildings keep funds in reserves or operating budgets, members discussed that larger projects typically require financing and long-range planning to complete. Buildings need to continue to stay profitable and banks typically look at the financial benefit of the project in evaluating the financing.

One member noted that several other variables should be considered in determining “economic infeasibility,” including:

- The time-value of money: dollars invested in year 1 are going to be worth more than the dollars from savings realized in years 2, 5 or 10.
- Impact on the cash flow and terminal value using a standard, 10-year discounted cash flow analysis, the capital costs, savings from reduced energy usage and incentives. To the extent that the capital investment associated with energy efficiency improvements doesn’t pay for itself once the return requirements accounted for (the internal rate of return/discount rate) then the investor will have to pay less for the building. The same principles will apply to a building that is not being purchased—a real estate investment is still going to require a return.
- Recognize that larger improvements are likely to be financed and that the infeasibility analysis should account for the cost of that debt.
- Inflation will erode the value of the future savings dollars.
- The energy savings may not actually translate into reduced expenses or increased rents for the owner. In an owner-occupied building or building where the owner directly pays all the utility costs, the savings calculation is more direct. In a triple net lease, an owner should theoretically be able to charge more for rent when utility costs are lower, but this is not a guarantee. A full-service lease is going to lie somewhere in the middle.

### **General Consensus**

Though members stated a general preference for a more objective measure of financial infeasibility, no concrete recommendation or consensus emerged on what kind of measure or how to calculate it.

The board generally agreed that while economic infeasibility is a crucial measure for BPIP applicability, it is very difficult to come up with one objective metric that would demonstrate economic infeasibility for all buildings. As such, there was general support to maintain flexibility and consider applications on a case-by-case basis. As applications are received and reviewed (in conjunction with the Board), best-practices can be established in technical guidance over time.

### **Timeline / Application Process**

Though the BEPS law stipulates that the owner must submit a proposed BPIP to the Department at least 90 days before the deadline for submitting documentation of compliance with interim or final performance standards, the Board discussed overall phasing of the BPIP process.

Because BPIPs are only allowed under some qualifying scenarios (as discussed above), the Board discussed whether a pre-approval step should be added. For instance, a building owner would submit documentation outlining their qualifying scenario and receive approval to utilize the BPIP for BEPS compliance.

Similarly, though proposed BPIPs must be submitted at least 90 days before the interim or final performance standard deadline, members pointed out that taking the necessary steps to create a BPIP proposal – completing a building assessment, documenting potential improvement measures, including engineering calculations of energy savings and a cost-benefit analysis of each potential improvement measure, creating a plan and timeline for achieving energy improvements – may take a lot of time to complete. The suggestion was made that if a BPIP proposal is submitted close to the deadline, the owner should be able to include in the proposal work that has already been implemented to lower the building EUI, as an example of good faith efforts to comply with the BEPS law.

The suggestion was also made to include a thorough building data verification as part of the BPIP or BPIP application. For example, if a building is not accurately inputting their floor area in ESPM, their reported EUI could be significantly affected.

### **General Consensus**

For the County's BPIP process, members generally agreed that having a two-part process would be beneficial. For instance, a building owner would submit documentation outlining their qualifying scenario and receive approval to utilize the BPIP pathway for BEPS compliance. This approach would provide more certainty for building owners that they qualify for the BPIP pathway before an owner undertakes more costly and in-depth audits or assessments of the building. It would also help to ensure that building owners start early enough to meet the BPIP submission deadline.

### **Areas of Non-Consensus**

Though members generally agreed that a two-part process would make sense, they were split on whether to recommend creating a deadline by which owners would need to apply for a BPIP and document their qualifying scenario. Some thought that an application deadline would be beneficial to owners so that they do not delay and are then left without time to plan. Others noted that some circumstances (e.g., change in ownership, economic infeasibility) may make it difficult to apply by a set deadline. Deadlines can also create bottlenecks among the building professional community if all covered building owners are seeking an audit or assistance at one time.

DEP staff noted that creating an additional BPIP application deadline in regulations may not be possible since the enabling law does not make mention of a required application date. As such, regulations could suggest but not require that owners apply early to qualify for a BPIP, perhaps with one of the June 1<sup>st</sup> benchmarking deadlines a year or two in advance of the building's interim or final target deadline.

### **Documenting Improvement Measures**

Per the BEPS law, a Building Performance Improvement Plan must contain a "list of potential improvement measures, including energy savings & cost-benefit analysis."

The Board reviewed BPIP documentation requirements from other jurisdictions which include:

- **ASHRAE Level 2 Audit** – examines the building energy systems in detail to document potential energy-efficiency improvements with costs and paybacks of each measure. An ASHRAE Level 2 Audit is typically required by all jurisdictions with a custom/prescriptive BEPS compliance pathway.

- **Retrocommissioning (RCx) plan** – RCx is the process of fine-tuning building systems to ensure a building is running at its optimal performance. RCx is accepted by St. Louis in lieu of an audit once per building during the first two BEPS cycles.
- **Operations and maintenance (O&M) plan** – establishes schedules and best practices for building and system operations and maintenance. An O&M plan is required for all buildings in Washington State and for those seeking a timeline adjustment in Denver.

### **General Consensus**

The ASHRAE Level 2 Audit requirements were generally considered reasonable and appropriate as the central requirement for documenting efficiency measures in a proposed BPIP. Members generally felt that an audit completed within a few years (e.g., 2-3 years before the BPIP proposal submission) could be used to create the BPIP.

### **Areas of Non-Consensus**

Though members generally supported retrocommissioning as an important process, they were somewhat split on whether or how to require it as part of the BPIP. A few members noted that continuous commissioning / monitoring-based commissioning (MBCx) is preferable to retrocommissioning since it ensures that the building is not only tuned but also monitored and corrected as needed. One member recommended that only MBCx be accepted. Other members noted that RCx/MBCx is not applicable to some building types like multifamily or condo buildings where there are many unitized systems that are not connected to a building automation system (BAS), where central systems like steam boilers cannot be modulated/adjusted virtually, or where the BAS is basic or old, so should not be a required part of the BPIP. Other members noted that retrocommissioning would be documented as one of the efficiency measures during an ASHRAE Level 2 Audit if building conditions warrant it.

Similarly, though members generally felt that O&M plans are useful, there was no consensus on whether or how to require it as part of the BPIP. Some members again noted that O&M changes to save energy could be documented as part of the audit, rather than as a separate plan. Others felt that providing owners an O&M checklist to review would be more useful than each owner having to invent their own plan. One member noted that routine O&M should be standard procedure for most buildings and would be a good idea to require to ensure that best practices are documented and being followed by staff. Another noted that while ASHRAE provides a helpful framework and elements of an O&M plan, it is far more useful to have a plan that is not so technical and easier for facilities staff to read, understand, and implement. They recommended that if an O&M plan were to be required, it would be preferable to allow some flexibility in terms of the format and required elements.

### **Cost Effectiveness for Measures**

In terms of cost effectiveness, it was noted that a BPIP can provide allowances for buildings where meeting the target is technically or financially infeasible. As part of this calculation, there should be a requirement for cost estimates for proposed BPIP measures to include financial measures like incentives or rebates that would help defray the costs.

Challenges were identified for determining the cost effectiveness for more complex projects, like electrification, which require in-depth engineering before going to bid to vendors. Further, given the level effort needed, vendors may be wary of providing detailed bids for proposed work or for which they are

unlikely to win the project. Nonetheless, it is important to focus on the real cost compared to a rough average or industry estimate.

In response to this challenge, members discussed that the proposed BPIP could commit to: a) measures that the building owner is clearly able to do and finance, and b) additional engineering and cost studies of some more complex measures so that the BPIP is more of a flexible, living document that changes as more information becomes available.

Regarding under-resourced buildings that submit a BPIP, one member had a concern about extending their timeline or allowing for only a small number of measures to be completed to be in compliance. This member noted that if a building is in a position where it needs an extensive number of upgrades to be more energy efficient, that likely means it has a degraded HVAC system, and therefore poor indoor air quality and high operating costs as well. Degraded HVAC systems are more prone to equipment failures which lead to uncomfortable, and more importantly, unhealthy air for tenants. In winter and summer especially, these conditions can be harmful for tenants. Delaying upgrades for these buildings (or allowing them to avoid deep retrofits) means these tenants must endure continued poor conditions and higher operating costs (e.g., utility bills if those are being passed to the tenant) for longer than resourced buildings that make sufficient upgrades on time. This is not equitable.

### **General Consensus**

Similar to the discussion on economic infeasibility, the board generally agreed that while cost effectiveness is a crucial measure for BPIP execution, it is very difficult to come up with one objective metric that would demonstrate cost effectiveness for all buildings. As such, there was general support to maintain flexibility and consider measures on a case-by-case basis. As applications are received and reviewed (in conjunction with the Board), best practices can be established over time.

### **Verifying Implementation**

The BEPS law says that if, after consulting with the Building Performance Improvement Board, the DEP Director approves the building performance improvement plan, the owner must record the building performance improvement plan as a covenant in the County land records and deliver a certified copy of the recorded plan to the Department. Further, “the covered building will be deemed to be in compliance with the applicable interim or final performance standards as long as the owner fulfills the terms of the building performance improvement plan within the timeline specified in the plan.”

However, the law does not provide detail on the approach to verify that the plan was implemented. The Board spent a few meetings discussing the best approach to verifying that the measures in the BPIP had been completed according to the Plan. The Board considered two primary methods of verifying that the owner has fulfilled the terms of the BPIP: performance monitoring and tracking measure installation.

Members in favor of the performance metric noted that tracking performance proves what was done and may be easier to track for DEP and building owners, as the data would come from the annual benchmarking report that is already being submitted. Additionally, it is in the owner’s best interest to ensure that savings persist after they have paid to install new efficiency measures to capture cost savings, improve the payback, and potentially capture property tax incentives. Those against this approach noted that the annual

benchmarking reports, which would be used to evaluate performance, would take a minimum of 18 months to assess as they need a full year of energy use and then are not reported until the following June.

Those in favor of tracking measure implementation noted that the BPIP is meant for building owners struggling to meet performance targets, and the BPIP is intended to be a measures-based alternative. Proving that measures were installed shows that they are trying to reduce energy use, but then are not penalized if post-implementation savings are not as high as predicted. The suggestion was made to allow owners to provide documentation that is easily accessible, like a signed contract, final paid invoice, or final approval permit to demonstrate that a measure was implemented. DEP noted that, in addition to demonstrated energy reductions, the County's Energy Efficient Property Tax Credit requires similar documentation to substantiate that an efficiency measure was installed, indicating that this is already a validated procedure. The County could also retain the option to "audit" measures or complete a site visit to verify in some circumstances. One member suggested that building owners with BPIPs could be required to report annually on installed measures, potentially by June 1st with the benchmarking reports. Those against using a measure implementation approach argued that a performance-based approach is more in line with the spirit of the BEPS law and that focusing only on installing measures could leave savings on the table. There was also concern regarding whether DEP had the administrative capacity to carry out these verification options.

As there was not a clear consensus the verification approach, the breakdown of support for each option is shown below. The majority of members supported an approach primarily centered around tracking measure installations, with many preferring additional performance monitoring to help verify that measures were implemented per the plan.

- 1) **Performance monitoring:** Recalculate a new site EUI target that would result if all of the agreed-upon measures in the plan were completed, and then track annual benchmarking data to see if the building has met (or come near) the new site EUI target. Members preferring this option: **0**
- 2) **Tracking measure installation:** Owners report back to verify that each agreed-upon measure was implemented according to the BPIP timeline. Members preferring this option: **4**
  - One member that primarily supported option 2 would also be supportive of option 4 if it was not punitive for building owners.
- 3) **Performance monitoring with measure installation tracking if target not met:** Recalculate a new site EUI target that would result if the agreed-upon measures in the plan were completed and track annual benchmarking data to see if the building has met the new site EUI target. If the building did not meet the new target, the owner could provide proof that all measures were installed and then demonstrate compliance. Members preferring this option: **1**
- 4) **Tracking measure installation with performance monitoring to verify:** Owners would report when agreed-upon measures were implemented, with DEP monitoring performance via annual benchmarking reports based on expected savings. If performance varied significantly (e.g., site EUI was 25% higher than expected), owners would need to re-validate their EEM (to assure that the measure was installed correctly, operated as designed, not overridden, etc.). Members preferring this option: **7**

Two **(2)** members were in support of whatever option provides the most flexibility for building owners, between options 2, 3, and 4. One of these members noted that if options 3 and 4 are overly complicated,

they would prefer option 2 as a more straight-forward approach. One **(1)** member did not provide a recommendation.

## Renewable Energy Allowance (REA)

Per the BEPS law, DEP must develop and implement building energy performance standards for covered buildings that must account for a renewable energy allowance in the performance metric. Further, the law defines normalized net site energy as the site energy use by the covered building normalized for weather and other characteristics within the limits of the capabilities of the benchmarking tool and normalized for other factors as determined by the Department minus energy generated from the renewable energy allowance.

Though the law is clear about inclusion of a renewable energy allowance, regulations must provide additional detail to outline types of renewable energy and ownership structures that are allowed to be counted towards the performance metric and BEPS compliance.

The Board considered several aspects of a renewable energy allowance as they relate both to onsite renewable energy options and offsite renewable energy options. REA topics were reviewed over several meetings from April to June 2023.

### Background

DEP had engaged ICF to complete a report titled [Allowance for Renewable Energy Technical Report and Recommendations](#). This report provides information on determining how a renewable energy allowance should be defined and implemented within BEPS regulations and had involved several stakeholder feedback sessions to solicit input on a range of REA options.

The Board was provided this report to review, and attention was called to stakeholder consensus that had emerged from that report.

### Onsite Renewable Energy Considerations

Members were asked their opinion on whether onsite renewable energy should be considered as part of the REA. General discussion included remarks that BEPS is about building performance and that overly crediting renewable energy discourages energy efficiency. Though renewable energy is a “clean” source, the cleanest source is the avoided energy that was not wasted through inefficiency, so there is a concern on how to appropriately balance efficiency while encouraging renewable energy use in the BEPS program.

### General Consensus

The majority of members were in favor of including onsite renewable energy in the REA, with two abstaining. As such, the Board continued discussions on the renewable energy allowance (REA) and questions about how to credit on-site renewable energy and opted to do polling on related questions:

### Renewable Energy Produced vs Consumed

On the question of whether owners should get credit for renewable energy produced or consumed, members were polled for the following options:

- Option 1 (ICF report stakeholder consensus): All onsite electricity generated will receive allowance, including exported power: **7**
- Option 2: Credit only for renewable energy used onsite, does not include exported power: **4**

**General Consensus:** A majority of those that responded were in favor of providing a REA irrespective of how much of their power output is consumed at the building or exported to the local utility. However, a concern was noted that overly crediting renewable energy may discourage energy efficiency. Though renewable energy is a “clean” source, the cleanest source is the avoided energy that was not wasted through inefficiency, so it is important to appropriately balance efficiency while encouraging renewable energy use.

#### Renewable Energy Credit (REC) Retention

Members had differing views about the question of allowing REA regardless of REC retention. Members were particularly concerned about the potential to double-count benefits when selling RECs and getting credit towards compliance and that those RECs could also be used to help others achieve compliance if offsite renewable energy is provided an allowance.

Another issue the board discussed is ensuring that the REA and REC treatment aligns with the International Green Construction Code. Potential changes to the Green Code may require level 1, 2, and 3 alterations to meet code at the time of alteration. If these buildings are then required to add or procure renewable energy, DEP/DPS should carefully coordinate to ensure constancy in requirements and determine whether undertaking required actions for code compliance should also provide credit under BEPS.

Those more in favor of providing a credit regardless of REC retention noted that it is beneficial to give building owners every reason to deploy solar. Additionally, some building types like worship facilities and other non-profits and condo buildings may be less financially able to retain/retire RECs because of their challenge in obtaining tax credits to offset the cost of installations.

On the question of whether owners need to retain RECs to get a REA, members polled for the following options:

- Option 1 (ICF report stakeholder consensus): Allowance should apply even if onsite RECs are sold or transferred: **7**
- Option 2: Owner must retain RECs to take credit: **3**
- Option 3: Some building types (e.g., under-resourced buildings) may count onsite energy regardless of REC retention, while others must retain RECs for credit: **1**

**General Consensus:** A majority of those that responded were in favor of providing a REA regardless of REC retention.

#### Fractional Onsite Renewable Energy Allowance

A few members pointed out the difficult balance of incentivizing onsite renewable development but not at the cost of neglecting energy efficiency upgrades. One proposal to value energy efficiency more highly than renewable energy is to provide less than full credit for onsite renewable energy (e.g., 1 kBtu of onsite renewable energy = 0.5 REA).

Others felt that many owners will still have a lot of efficiency work to do and that fully crediting onsite renewable energy would help to incentivize local renewable energy development and provide additional co-benefits like decarbonizing the electricity supply, supporting the local economy, and supporting local industry and installers

One member proposed that an REA could be allowed to help fulfill a certain portion of the BEPS target but not be used as the sole strategy to reach the site EUI target (e.g., if a building needs to reduce site EUI by 20, the REA allowed could be capped at 20% to reduce the net site EUI by 4, but the rest would need to come from building efficiency improvements).

On the question of what kind of allowance should be given for onsite renewable energy, members polled for the following options:

- Full credit (1 kBtu = 1 REA): **9**
- More than full credit (e.g., 1 kBtu = 1.05 REA): **0**
- Less than full credit (e.g., 1 kBtu = 0.50 REA): **2**

**General Consensus:** A majority of the Board supported full credit for onsite renewable energy.

### Offsite Renewable Energy Considerations

Members were asked their opinion on whether offsite renewable energy should be considered as part of the REA.

A member cautioned that credit should not be provided for renewable energy that is a result of overall utility grid decarbonization, rather the renewable energy allowance should apply to private systems that are additional to the utility grid.

Another member cautioned possible equity issues with financially capable entities that could buy RECs as a way out of compliance while those with limited funds would not have access to this pathway.

One member noted that giving some credit for offsite renewable energy could keep more buildings out of the BPIP pathway, which is likely to be administratively burdensome. If they are nearing the performance target, an offsite REA would provide some flexibility for the owner to secure offsite RECs to close the gap.

Others remarked that tracking can be complicated. For instance, a tenant may purchase a contract with a solar provider for community solar. In this case, the consumption provided from the solar may not be reflected in the aggregated electricity feed and tracking/reporting the purchased amount can be very difficult to summarize and report.

In reference to whether offsite renewable should be considered in the REA, polling from the Board members reflected:

- **Option 1 – Yes: 10** (*some with caveats*)
  - One member suggested that if offsite renewables are included, they should be counted only after all building efficiency measures have been maximized.

- Another member suggested that offsite renewable could be included, but that building owner would need to go through the BPIP compliance pathway.
- One member wanted to highlight that offsite renewable energy options should include both electric and gas options in the REA.
- **Option 2 – No: 3**

**General Consensus:** A majority of members were in support of providing some kind of offsite renewable energy allowance.

After this initial poll, the Board discussed additional considerations for offsite renewable energy, including technology options, location, and contract terms and types – and whether those considerations are the same or different for under-resourced buildings, as well as whether there should be a cap/limit on how much offsite renewables should be allowed to be credited towards BEPS compliance.

#### Types of Acceptable Offsite Sources

Related to offsite renewable technologies, members discussed various options that included: only solar and wind, aligning with the technologies eligible under the Maryland RPS requirements, or adding to the technologies eligible under the Maryland RPS requirements by including renewable natural gas/agricultural waste as a methane source.

An argument was made for using the Maryland RPS, as this would be the simplest criteria. Also, as that list could change over time, the county’s approved list would then also update as the views changed of what should be included. One member suggested that limiting the list to solar and wind would serve to put pressure on industry to expand this resource.

On the question of what energy sources should be eligible for REA credit if offsite renewables are allowed, members polled for the following options:

- **Option 1:** All Maryland RPS Tier one sources count as qualified renewable energy sources (includes solar, wind, qualifying biomass, methane from a landfill or wastewater treatment plant, poultry litter-to-energy, waste-to-energy, and refuse-derived fuel): **7**
  - If the County aligns with RPS Tier one sources, it would also need to credit any source that is added to the RPS Tier one sources in the future as amended by the State. Similarly, it could no longer credit any sources that were removed from the list.
- **Option 2:** Alignment with Maryland's RPS Tier 1 sources, with exclusions for combustion (e.g., Qualifying Biomass, Methane from a landfill or wastewater treatment plant, Poultry litter-to-energy, Waste-to-energy, and Refuse-derived fuel): **0**
- **Option 3:** County-developed list of qualified renewable energy sources (e.g., only solar and wind): **5**
  - Three members preferred a more limited list (e.g., only solar and wind)
  - Two members preferred an expanded list beyond Maryland RPS to include MRETS credits (certified renewable natural gas credits).
- **Abstain: 1**

**General Consensus:** Slight majority in favor of aligning with Maryland RPS Tier 1 sources.

## Location Criteria

RECs can be obtained from anywhere in the country (e.g., wind farm in Iowa) but many policies (e.g., RPS) place narrower geographic boundaries (e.g., in the same electricity market or state) on what RECs will count towards policy achievement. The County will need to determine what, if any, limits to place on the location of the projects creating RECs that are eligible for the REA.

Related to locational boundaries of offsite renewable energy, members discussed various options that included: Maryland and/or Montgomery County only, or some gradient of allowable locations that would value renewable energy generated closer to Montgomery County more highly than renewable energy generated further away—but still providing some value greater than zero for offsite renewable energy.

As many members were previously in favor of using the list of Maryland RPS sources to determine what resources/technologies qualify for REA, members discussed also accepting whatever the RPS limits for locational boundaries. The Maryland RPS requires that renewable energy credits must be derived from a source that is located in the PJM Region. Renewable energy credits may come from outside the area described above if the electricity is delivered into the PJM Region.

Like onsite renewable energy, potential changes to the Green Code may require level 1, 2, and 3 alterations to meet code at the time of alteration. If these buildings are then required to add or procure renewable energy, DEP/DPS should carefully coordinate to ensure constancy in requirements and determine whether doing required actions for code compliance should be provided credit under BEPS. DPS staff noted that the code is likely to allow offsite renewable energy within PJM to count on a one-to-one basis and RECS from outside the PJM are likely to be discounted.

A member emphasized that encouraging more in-county and instate renewable development is a political decision to support local renewable development and economic activity. Another member added that members should be clear on the intention of using offsite RECs and to move forward with options that serves the intent.

In terms of sources and location, the general consensus of allowing Tier 1 sources within a defined service territory aligns with existing County code, [Sec. 52-14. Fuel-energy tax](#) which describes fuel tax exemptions from renewable sources:

(4) The tax does not apply to energy that is generated from a renewable source located:

(A) in the County and either used on the site where it is generated or subject to a net energy metering agreement (as defined in state law) with a public utility; or

(B) in the same electric service territory in Maryland as the subscriber using the energy and subject to a virtual net energy metering agreement (as defined in state law) with a public utility.

Renewable source means a “Tier 1 renewable source” as defined in Section 7-701(l) of the Public Utilities Article of the Maryland Code or any successor provision.

## General Consensus:

Members were generally supportive of aligning with the Maryland RPS and/or the code locational boundaries and credit rather than creating a custom location factor for BEPS.

Rather than focusing on placing a location factor on RECs, members discussed instead placing a cap on the amount of off-site renewable energy that would be allowed to be credited toward the site EUI. See [Limiting the Offsite Renewable Energy Allowance](#).

#### Procurement Criteria

RECs can be also procured in many ways. The contract type and duration can influence the type of benefits being conveyed. The County needs to determine what kind of contract types and durations are eligible for REA.

The Board preferred either having no procurement factor (especially if a cap is placed on offsite renewable energy) or aligning with International Energy Conservation Code (IECC) procurement factors.

It was noted that the procurement factors in the energy code could change when the building codes are updated in future 3-year cycles, further complicating that option. In general, members felt that a simple approach would be appreciated by building owners and managers.

Some initial discussion about transaction types/contract length occurred, specifically around what happens to renewable energy contracts when a building is sold, and the due diligence required on renewable energy contracts during the sale of a building as it relates to BEPS compliance.

Members also discussed contract length of REC purchases. With performance only being evaluated at the interim and final performance period, they discussed what period RECs purchases should cover – whether just the 12-month period being benchmarked, or a longer duration. Most members agreed that REC purchases should cover the full calendar year being reported on and assessed for interim and final targets.

Some members were concerned that the law, as written, does not require building owners to maintain the interim site EUI between the interim and final period, nor after the final target. As such, owners could purchase a large number of RECs for the 12-month interim and final performance years to meet their EUI targets without first reducing site EUI through increased energy efficiency. They cited this as another reason that the offsite renewable energy allowance should be capped.

#### **General Consensus**

Rather than focusing on placing a procurement factor on RECs, members discussed instead placing a cap on the amount of off-site renewable energy that would be allowed to be credited toward the site EUI. See [Limiting the Offsite Renewable Energy Allowance](#). The Board generally supported either having no procurement factor (especially if a cap is placed on offsite renewable energy) or aligning with procurement factors established in the energy code.

#### Limiting the Offsite Renewable Energy Allowance

A few members again pointed out the balance of crediting offsite renewable energy investments at the expense of energy efficiency upgrades.

Rather than a complex set of location and procurement factors, members instead discussed placing a cap on the amount of off-site renewable energy that would be allowed to be credited toward the site EUI. This issue was raised, in part, due to there being currently a number of buildings that cover all their electricity use with offsite RECs. Such buildings might be able to use these RECs in an REA to offset all their electricity and not need to do any work to decrease their EUI.

Members were basically split on whether to put a cap on offsite renewable energy:

- **In favor of a cap: 5**
  - Two members advocated for a 10% cap
  - One member supported a “low” cap
  - Two members supported a cap but include flexibility based on the specific case
- **In favor of no cap: 5**

Several members who were opposed to a cap thought that if there was a cap, then there should be flexibility on the location or type of REC that was included.

#### **General Consensus:**

The Board generally agreed that if offsite renewable energy is only given a small allowance, there may not be much need to carefully track offsite renewable energy contracts and locations outside of what Portfolio Manager already captures. For instance, if the offsite REA is capped at 10%, the County may opt to be less strict on verifying details about these contracts.

A cap was generally favored instead of a discount on certain type of RECs as it seemed simpler and more straight forward, but members argued for flexibility to modify the cap in some circumstances, especially for under-resourced buildings or if an owner is pursuing a BPIP.

#### **Under-Resourced Buildings**

Lower-resourced building owners almost certainly sell SRECs if they host solar energy generation onsite to boost onsite renewable energy economics and may be more likely to engage in a solar PPA (no up-front cost of installation). These owners may also not have the means to purchase offsite green power (where there are no incentives or payback like for efficiency or on-site renewable projects). One member reiterated that paying for RECs does not provide any payback or add value to the building compared to similar investments in energy efficiency and reiterated that efficiency should be the first strategy to comply.

Stakeholders engaged via the ICF report suggested the allocation of additional resources for under resourced buildings, such as technical assistance, and options for additional pathways to support their BEPS compliance.

Members supported maximum flexibility for under-resourced buildings, perhaps exempting them from a cap on an off-site REA and reiterated the need for incentives that help offset the up-front costs of fuel switching measures.

## Appendix 1: BPIB Agendas, Presentations, and Notes

Agenda, full meeting minutes, and each meeting's presentation are available below. Items are grouped according to the primary topic for each meeting.

### **BEPS background**

- October 12, 2022: [Agenda](#) | [Minutes](#) | [Presentation](#)
- October 26, 2022: [Agenda](#) | [Minutes](#) | [Presentation](#)

### **Building type groupings**

- November 9, 2022: [Agenda](#) | [Minutes](#) | [Presentation](#)
- November 16, 2022: [Agenda](#) | [Minutes](#) | [Presentation](#)

### **Interim and final site energy use intensity performance standards for each building type**

- December 7, 2022: [Agenda](#) | [Minutes](#) | [Presentation](#)
- December 21, 2022: [Agenda](#) | [Minutes](#) | [Presentation](#)
- January 4, 2023: [Agenda](#) | [Minutes](#) | [Presentation](#)
- January 18, 2023: [Agenda](#) | [Minutes](#) | [Presentation](#)
- February 1, 2023: [Agenda](#) | [Minutes](#) | [Presentation](#)

### **Building performance improvement plans**

- February 15, 2023: [Agenda](#) | [Minutes](#) | [Presentation](#)
- March 1, 2023: [Agenda](#) | [Minutes](#) | [Presentation](#)
- March 15, 2023: [Agenda](#) | [Minutes](#) | [Presentation](#)
- April 12, 2023: [Agenda](#) | [Minutes](#) | [Presentation](#)
- April 26, 2023: [Agenda](#) | [Minutes](#) | [Presentation](#)
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### **Criteria for the renewable energy allowance in the performance metric**

- April 12, 2023: [Agenda](#) | [Minutes](#) | [Presentation](#)
- April 26, 2023: [Agenda](#) | [Minutes](#) | [Presentation](#)
- May 10, 2023: [Agenda](#) | [Minutes](#) | [Presentation](#)
- June 7, 2023: [Agenda](#) | [Minutes](#) | [Presentation](#)

## Appendix 2: Building Type Final Group Recommendations

The Board voted on a final recommended building grouping, including addressing special cases as relayed in the discussions. The majority of Board members approved the final building group type to be recommended to the County (Table 1).

BEPS Draft Group Type	Portfolio Manager Type
<b>K-12 School</b>	K-12 School
<b>College/University</b>	College/University
<b>Other Education</b>	Adult Education Other – Education Vocational School
<b>Preschool/Daycare</b>	Pre-school/Daycare
<b>Grocery</b>	Supermarket/Grocery Store Wholesale Club/Supercenter
<b>Food Sales &amp; Service</b>	Food Sales Food Service
<b>Bar/Nightclub</b>	Bar/Nightclub
<b>Restaurant</b>	Other - Restaurant/Bar Restaurant
<b>Healthcare Inpatient</b>	Hospital (General Medical & Surgical) Other - Specialty Hospital
<b>Healthcare Outpatient</b>	Ambulatory Surgical Center Medical Office Outpatient Rehab/Physical Therapy Urgent Care/Clinic/Other Outpatient Veterinary Office
<b>Lodging</b>	Hotel Other - Lodging/Residential Residence Hall/Dormitory
<b>Healthcare Lodging</b>	Senior Living Community Residential Care Facility
<b>Enclosed Malls</b>	Enclosed Mall
<b>Strip Shopping Centers</b>	Lifestyle Center Other – Mall Strip Mall
<b>Other Retail</b>	Automobile Dealership Retail Store
<b>Multifamily</b>	Multifamily Housing
<b>Bank Branch</b>	Bank Branch
<b>Office</b>	Financial Office Office

BEPS Draft Group Type	Portfolio Manager Type
<b>Data Center</b>	Data Center
<b>Laboratory</b>	Laboratory
<b>Manufacturing/ Industrial Plant</b>	Manufacturing/Industrial Plant
<b>Other</b>	Other
<b>Recreation</b>	Bowling Alley Fitness Center/Health Club/Gym Ice/Curling Rink Other – Recreation Swimming Pool
<b>Entertainment/Public Assembly</b>	Convention Center Social/Meeting Hall Indoor Arena Stadium (3 types) Movie Theater Museum Other - Entertainment/Public Assembly Performing Arts
<b>Library</b>	Library
<b>Courthouse</b>	Courthouse
<b>Public Order and Safety</b>	Fire Station Other – Public Services Police Station
<b>Prison/Incarceration</b>	Prison/Incarceration
<b>Religious Worship</b>	Worship Facility
<b>Service</b>	Other – Services Personal Services (Health/beauty, dry cleaning, etc) Repair Services (vehicle, shoe, locksmith, etc)
<b>Warehouse and Storage</b>	Distribution Center Non-Refrigerated Warehouse Self-Storage
<b>Refrigerated Warehouse</b>	Refrigerated Warehouse